Fusion Materials Modeling

Out of 19 proposals received (5 university grant applications and 14 laboratory proposals), 9 were funded (5 grant and 4 laboratory).

FY 2001 funds for the funded proposals is $1,000,000. It is anticipated that about $750,000 per year will be provided for the duration of this effort.

Universities

Institution/PI/Co-PI	Topic
Merrimack College/Douglas White	Theoretical Modeling of the Effect of Radiation Induced Defects on the Thermal Conductivity of Ceramic and Composite Materials for Use in Fusion Reactors
Princeton U./David Srolovitz and Roberto Car	Multiscale Modeling of Damage Production and Accumulation in Structural Alloys for Fusion Power Systems
UCLA/ Nasr Ghoniem/S. Sharafat	In-Service Design and Performance Prediction of Advanced Fusion Material Systems by Computational Modeling and Simulation
UCSB/ G. Robert Odette/Glenn Lucas	In-Service Design and Performance Prediction of Advanced Fusion Material Systems by Computational Modeling and Simulation
WSU/H. Zbib and J.P. Hirth	Multiscale Modeling of Irradiation Effects in Fusion Reactor Materials

Laboratories

Institution/PI/Co-PI/Funding	Title
LLNL/Brian Wirth and T. Diaz de la Rubia /M. J. Catula	Multiscale Modeling of Irradiation Effects in Fusion Reactor Materials
ORNL/Roger E. Stoller, Man H. Yoo, Louis K. Mansur, and Steven J. Zinkle	Helium Effects on High-Temperature Flow and Fracture in bcc Materials

ORNL/ Stan David/G. Sarma and B. Radhakrishnan, S. S. Babu	Modeling of Friction Stir Welding Process for Fusion Energy
PNNL/Richard J. Kurtz/Howard Heinisch, Charles Henager, Fei Gao, and Richard Hoagland	Effects of Helium on Microstructural Evolution of Ferritic Steels in a Fusion Environment